

Regional Water Quality Control Board
895 Aerovista Place, Suite 101
San Luis Obispo, California 93401-5427

October 7, 2005
Ref. No.:4358-05

Attention: Dr. Wei Liu

**GROUNDWATER MONITORING
THIRD QUARTER 2005
FORMER GAS STATION
191 LIGHTHOUSE AVENUE
MONTEREY, CALIFORNIA**

1.0 INTRODUCTION

CapRock has prepared this report presenting the results of the Third Quarter 2005 groundwater sampling at the former gas station property located at 191 Lighthouse Avenue in Monterey, California (Figure 1). Four groundwater monitoring wells were installed July, 2002 to assess the impact to groundwater conditions on site from one waste oil Underground Storage Tank (UST) and four gasoline USTs that were removed in July 1999 and in April 2002. Also, in April 2002 a remedial soil excavation was performed (See CapRock Remedial Excavation Report dated May 24, 2002). On October 28, 2003 two additional water monitoring wells (MW-5 and MW-6) were installed across the street from the subject site at 100 Lighthouse Avenue. The two additional wells were installed to further delineate the extent of hydrocarbon contamination in the groundwater down gradient from the subject site. A CapRock Geology Supplemental Corrective Action Plan (CAP) dated February 11, 2004 proposed the use of an oxygen releasing compound (ORC) to enhance the rate of natural bioremediation in the groundwater. The CAP was approved by the Regional Water Quality Control Board (RWQCB) in a letter dated March 22, 2004. Two ORC socks were installed in MW-4 on February 13, 2004, and were removed for the fourth quarter 2004 sampling on October 27, 2004. In a letter dated January 12, 2005 the Regional Water Quality Board requested that the socks be removed, one quarter of sampling be waived, and MW-1, MW-2 and MW-3 no longer to be sampled. The socks were removed on January 11, 2005. For this sampling event MW-5 and MW-6 were sampled on August 16, 2005 and MW-4 was sampled on August 17, 2005.

2.0 SITE DESCRIPTION

The site is a former gas station located at the south corner of Lighthouse Avenue and Reeside Avenue within the city limits of Monterey. Three gasoline USTs had previously been located near the southeastern boundary of the subject property, approximately ten feet from the property line. A fourth gasoline UST was found at the northeastern boundary of the property during excavation of the contaminated soil (Figure 2). The site is gently sloping and the USTs were located beneath an asphalt paved parking area that has been re-paved following the remedial excavation.

3.0 METHODOLOGY

Proper decontamination procedures were exercised before purging and sampling of each well. Groundwater samples were collected in laboratory cleaned sample bottles, properly sealed, and placed on ice for transport to a laboratory certified by the state of California for analysis for Total Petroleum Hydrocarbons as gasoline (TPHg), and Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by EPA method 8260B.

4.0 GROUNDWATER SAMPLING RESULTS

The Regional Water Quality Control Board requested sampling of one of the monitoring wells on the site (MW-4), and the two monitoring wells located across the street from the subject property at 100 Lighthouse Avenue in a letter dated January 12, 2005. Monitoring Wells MW-4, MW-5, and MW-6 were sampled during this monitoring event.

On August 16 and 17, 2005 the wells were purged of approximately three well volumes depending upon well yield. During purging; temperature, pH, and conductivity parameters were measured. Monitoring Well 5 (MW-5) did not have detectable levels of the gasoline constituents tested for. MW-6 had 3.9 ug/L MtBE, and MW-4 had 15.6 ug/L Xylenes, 4.3 ug/L MtBE, and 1240.0 ug/L TPHg. The Groundwater analytical results for this quarter are listed in Table 1. Cumulative groundwater analytical results are presented in Table 3.

Depth to water was recorded for each well and the groundwater elevation calculated. Based on the elevation of groundwater at each well, a groundwater flow direction and gradient were calculated. On August 16 and 17, 2005 the approximate groundwater flow direction was to the Northeast with a gradient of .0568 ft/ft (Figure 3).

5.0 LIMITATIONS

This report has been prepared on behalf of David Holly as a description of services performed on the property located at 191 Lighthouse Avenue in Monterey. In performing our professional services, we have applied present engineering and scientific judgement and used a level of effort consistent

with the standard of practice measured on the date of this report and in the locale of the project site for similar type activities. CapRock, makes no warranty, expressed or implied, in fact or by law, whether of merchantability, fitness for any particular purpose, or otherwise, concerning any of the materials or "services" furnished by CapRock to the client.

Should you have any questions concerning this Monitoring Well Sampling Report, please contact us at (831) 484-5053.

Sincerely,
CapRock Geology, Inc.

Robert Barminski, R.G., C.E.G.
Principal Hydrogeologist

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Figure 2	Site Map - Groundwater Contours and Elevations
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Table 3	Cumulative Groundwater Analytical Data
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Table 5	Well Completion Data

Attachments: Appendix A Complete Laboratory Analytical Results
Appendix B Field Data Sheets

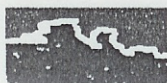
APPENDIX A
LABORATORY ANALYTICAL RESULTS

APPENDIX B

FIELD DATA SHEETS



CAPROCK



Environmental, Engineering & Marine Geology

SITE LOCATION MAP

191 LIGHTHOUSE AVENUE
MONTEREY, CALIFORNIA
Ref. No. 4358

REESIDE AVENUE

FOAM STREET

CANNERY ROW

U.S. Co

U.S. Coast Guard Facility

BEQ

ADMIN. BLDG.

Parking Lot

MW-5

Parking Lot

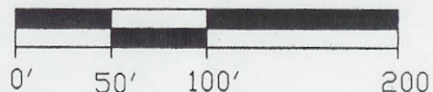
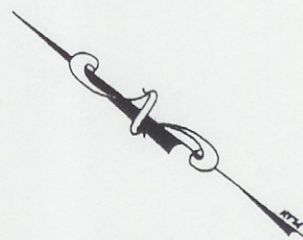
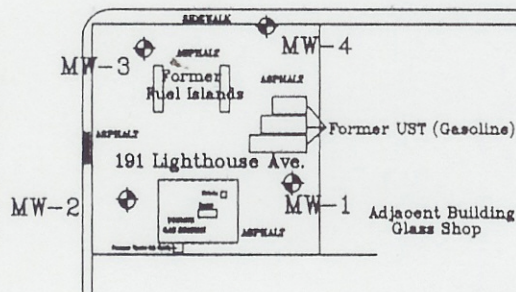
MW-6

EXTENDING WALL

SIDEWALK

GATE

LIGHTHOUSE AVENUE



Scale 1" = 100'

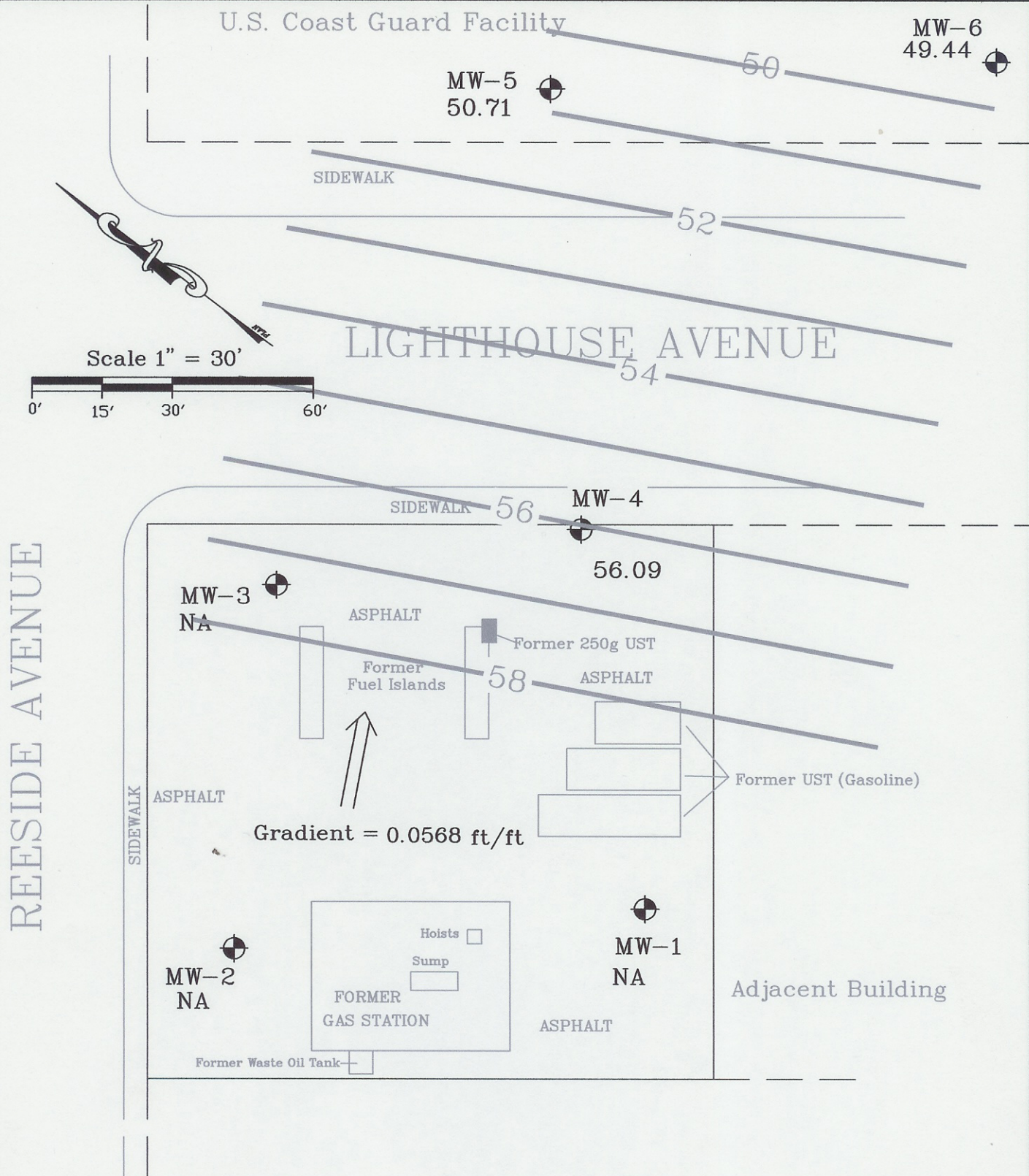
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Environmental & Engineering Geology
497 Monterey/ Salinas Highway
Salinas, CA 93908

SITE MAP
PROJECT WELL LOCATIONS
191 Lighthouse Avenue
Monterey, California

FIGURE

1



08/17/05

Caprock Job #: 4358 -05



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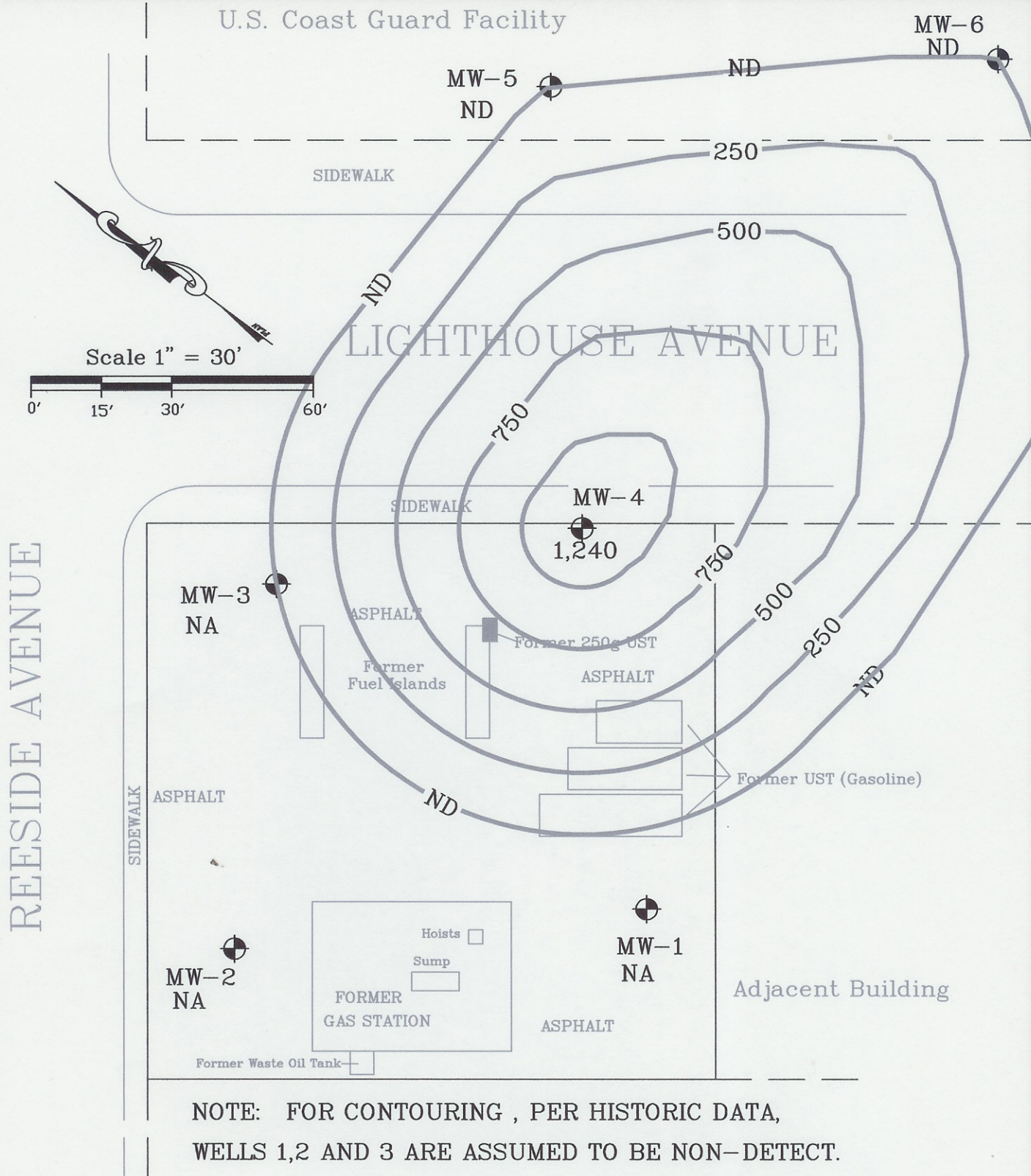
SITE MAP

GROUNDWATER CONTOURS AND ELEVATIONS

191 Lighthouse Avenue
Monterey, California

FIGURE

2



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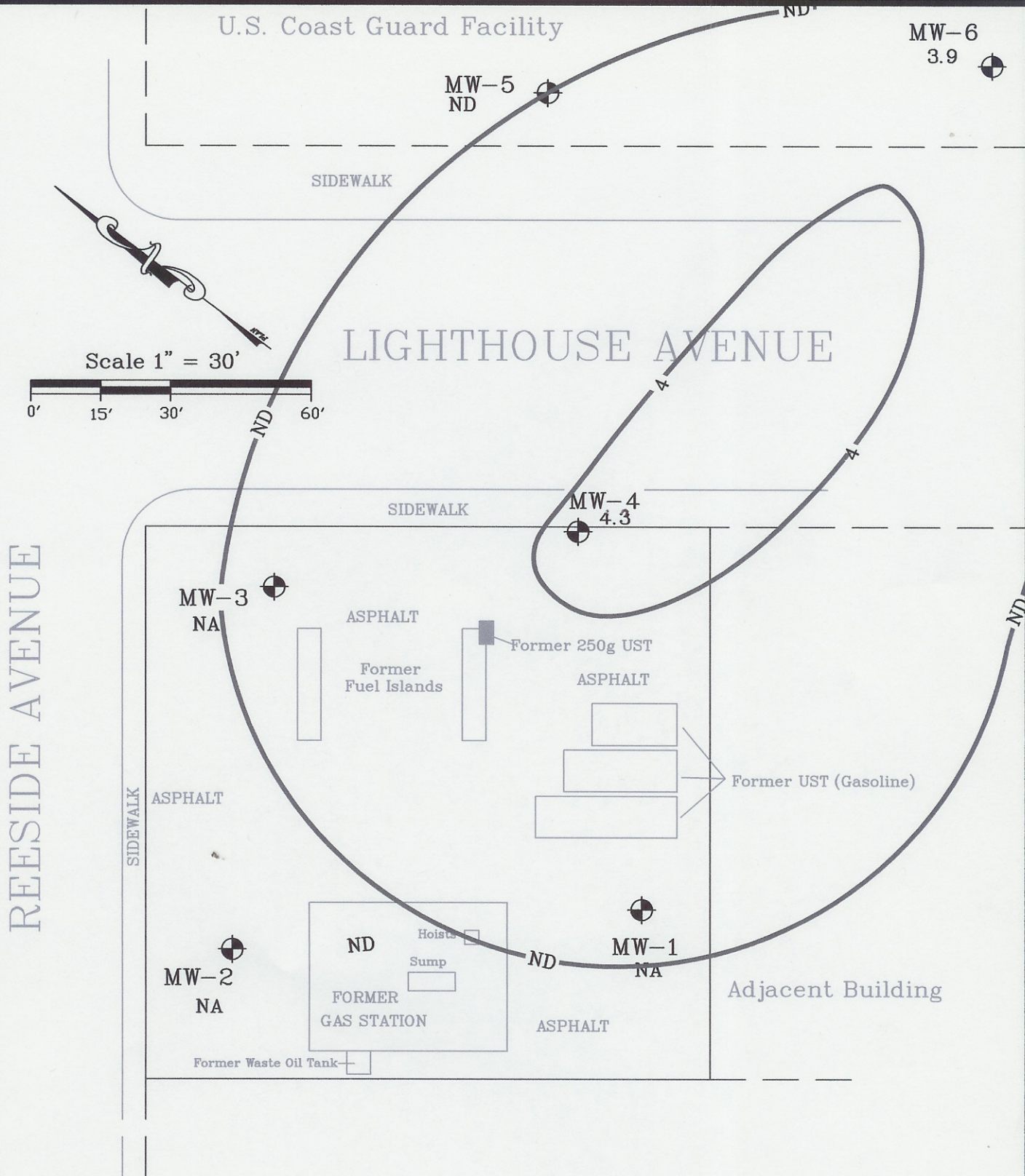
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SITE MAP

TPHg Contamination and Contours
191 Lighthouse Avenue
Monterey, California

FIGURE

3



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SITE MAP

MTBE Contamination and Contours
191 Lighthouse Avenue
Monterey, California

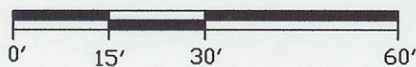
FIGURE

4

MW-5
ND

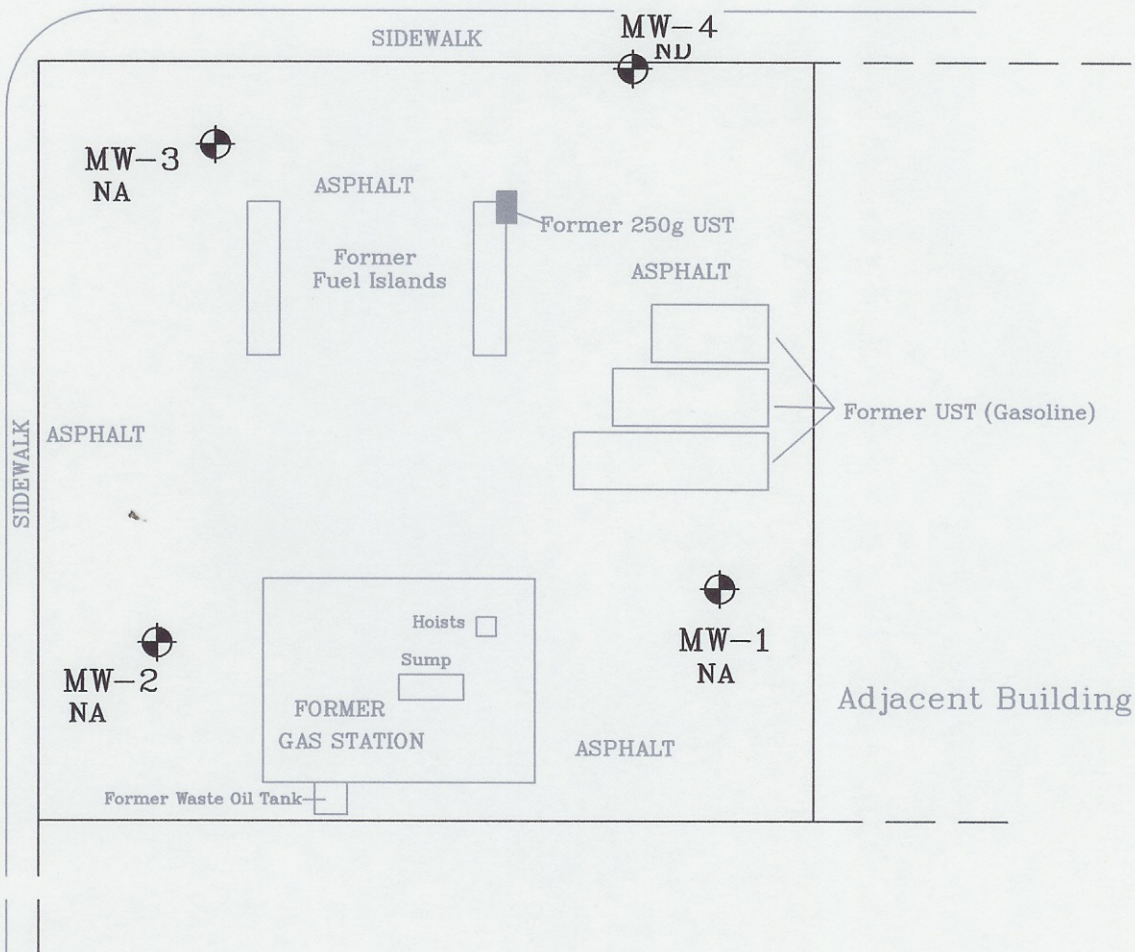
SIDEWALK

Scale 1" = 30'



LIGHTHOUSE AVENUE

REESIDE AVENUE



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SITE MAP

Benzene Contamination and Contours
191 Lighthouse Avenue
Monterey, California

FIGURE

5

TABLE 2
GROUNDWATER ELEVATION DATA IN FEET
Second Quarter 2005
191 Lighthouse Ave., Monterey, CA

* Elevations calculated from a mean sea level datum

Monitoring Well I.D.	Sample Date	Depth of Well	Depth to Water	Elevation at Well Casing	Elevation of Water in Monitoring Well
MW-1	NA	NA	NA	NA	NA
MW-2	NA	NA	NA	NA	NA
MW-3	NA	NA	NA	NA	NA
MW-4	08/17/05	5.60	2.36	58.45	56.09
MW-5	08/16/05	11.00	3.10	53.81	50.71
MW-6	08/16/05	13.10	4.10	53.54	49.44

NA = Not Analyzed

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191 Lighthouse Ave., Monterey, CA

* Elevations calculated from a mean sea level datum

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MW-5	08/16/05	11.00	3.10	53.81	50.71
MW-6	08/16/05	13.10	4.10	53.54	49.44

NA = Not Analyzed

<p align="center">TABLE 3 CUMULATIVE GROUNDWATER ANALYTICAL DATA 191 Lighthouse Ave., Monterey, CA Concentrations are expressed ug/L unless otherwise indicated.</p>									
Monitoring Well I.D.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MtBE	TPHg	TPHd	TDS (mg/L)
MW-1	08/15/02	4.5	ND	ND	4.4	10.1	ND	NA	NA
MW-1	12/12/02	ND	ND	ND	ND	5.2	ND	NA	NA
MW-1	04/03/03	4.9	11.1	ND	6.6	5.3	67.0	NA	NA
MW-1	06/06/03	ND	ND	ND	ND	ND	ND	NA	NA
MW-1	09/08/03	ND	ND	ND	ND	ND	ND	ND	NA
MW-1	12/09/03	ND	ND	ND	ND	ND	ND	ND	NA
MW-1	03/31/04	ND	ND	ND	ND	ND	ND	NA	949.0
MW-1	05/21/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-1	09/20/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-1	11/10/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-1	04/14/05	NA	NA	NA	NA	NA	NA	NA	NA
MW-1	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-2	08/15/02	ND	ND	ND	ND	ND	ND	NA	NA
MW-2	12/12/02	ND	ND	ND	ND	ND	ND	NA	NA
MW-2	04/03/03	0.4	1.9	ND	2.6	ND	ND	NA	NA
MW-2	06/06/03	ND	ND	ND	ND	ND	ND	NA	NA
MW-2	09/08/03	ND	ND	ND	ND	ND	ND	ND	NA
MW-2	12/09/03	ND	ND	ND	ND	ND	ND	ND	NA
MW-2	03/31/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-2	05/21/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-2	09/20/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-2	11/10/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-2	04/14/05	NA	NA	NA	NA	NA	NA	NA	NA
MW-2	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-3	08/15/02	ND	ND	ND	ND	ND	ND	NA	NA
MW-3	12/12/02	ND	ND	ND	ND	ND	ND	NA	NA
MW-3	04/03/03	0.4	1.9	ND	2.4	ND	ND	NA	NA
MW-3	06/06/03	ND	ND	ND	ND	ND	ND	NA	NA
MW-3	09/08/03	ND	ND	ND	ND	ND	ND	ND	NA
MW-3	12/09/03	ND	ND	ND	ND	ND	ND	ND	NA
MW-3	03/31/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-3	05/21/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-3	09/20/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-3	11/10/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-3	04/14/05	NA	NA	NA	NA	NA	NA	NA	NA
MW-3	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-4	08/15/02	13.0	2.0	ND	118.0	1820.0	2940.0	NA	NA
MW-4	12/12/02	20.3	3.6	ND	77.6	475.0	1380.0	NA	NA
MW-4	04/03/03	3140.0	920.0	394.0	1210.0	3140.0	18100.0	NA	NA
MW-4	06/06/03	1370.0	168.0	ND	134.0	234.0	3800.0	NA	NA
MW-4	09/08/03	640.0	48.0	ND	56.0	72.0	1920.0	ND	NA
MW-4	12/09/03	5.1	48.0	ND	152.6	40.6	6770.0	ND	NA
MW-4	03/31/04	1.8	0.7	ND	9.9	83.5	145.0	NA	NA
MW-4	05/21/04	25.3	17.7	3.5	19.2	7.6	294.0	NA	NA
MW-4	09/20/04	6.7	1.0	ND	ND	7.4	809.0	NA	NA
MW-4	11/10/04	ND	ND	ND	ND	ND	ND	ND	NA
MW-4	04/19/05	77.3	28.2	ND	54.1	54.9	1110.0	NA	NA
MW-4	8/17/05	ND	ND	ND	15.6	4.3	1240	NA	NA
MW-5	12/09/03	ND	ND	ND	ND	ND	ND	ND	NA
MW-5	03/31/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-5	05/21/04	ND	0.6	ND	ND	ND	ND	NA	NA
MW-5	09/20/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-5	11/10/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-5	04/14/05	ND	ND	ND	ND	ND	ND	NA	NA
MW-5	8/16/05	ND	ND	ND	ND	ND	ND	NA	NA
MW-6	12/09/03	ND	ND	ND	ND	ND	ND	ND	NA
MW-6	03/31/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-6	05/21/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-6	09/20/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-6	11/10/04	ND	1.5	ND	ND	ND	ND	NA	NA
MW-6	04/13/05	ND	ND	ND	ND	4.0	ND	NA	NA
MW-6	8/17/05	ND	ND	ND	ND	3.9	ND	NA	NA

NA = Not Analyzed
ND = Non-Detect

TABLE 5
WELL COMPLETION DATA
191 Lighthouse Ave., Monterey, CA

ID	DATE	Material	Total Depth (TD)	Slot	Screened	Sand	Annular	Seal	Well Elevation
MW-1	07/09/02	2 inch PVC	10	0.010	10-3	10-2	8"	0-2	62.52
MW-2	07/09/02	2 inch PVC	15	0.010	15-3	15-2.5	8"	0-2.5	64.26
MW-3	07/09/02	2 inch PVC	15	0.010	15-3	15-2	8"	0-2	60.77
MW-4	07/09/02	2 inch PVC	6	0.010	6-3	6-2	8"	0-2	58.45
MW-5	10/28/03	2 inch PVC	11.3	0.010	11.3-3	15-2	8"	0-2	53.81
MW-6	10/28/03	2 inch PVC	13	0.010	13-3	6-2	8"	0-2	53.54

TABLE 1
GROUNDWATER ANALYTICAL DATA
Third Quarter 2005
191 Lighthouse Ave., Monterey, CA

Concentrations are expressed in ug/L unless otherwise indicated.

Monitoring Well I.D.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MtBE	TPHg
MW-1	NA	NA	NA	NA	NA	NA	NA
MW-2	NA	NA	NA	NA	NA	NA	NA
MW-3	NA	NA	NA	NA	NA	NA	NA
MW-4	8/17/05	ND	ND	ND	15.6	4.3	1240.0
MW-5	8/16/05	ND	ND	ND	ND	ND	ND
MW-6	8/17/05	ND	ND	ND	ND	3.9	ND

Abbreviations:

TPHg - Total Petroleum Hydrocarbons as gasoline

MtBE - Methyl-tert-Butyl-Ether

NA - Not Analyzed

ND - Non Detect

Dr. Wei Liu
Regional Water Quality Control Board

October 7, 2005
Page 3

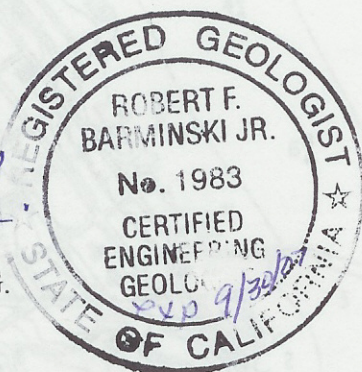
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Should you have any questions concerning this Monitoring Well Sampling Report, please contact us at (831) 484-5053.

Sincerely,
CapRock Geology, Inc.

Robert Barminski

Robert Barminski, R.G., C.E.G.
Principal Hydrogeologist



	Site Location Map
Figure 1	Site Map
Figure 2	Site Map - Groundwater Contours and Elevations
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Figure 4	Site Map - MTBE Contours
Figure 5	Site Map - Benzene Contours
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Attachments: Appendix A Complete Laboratory Analytical Results
Appendix B Field Data Sheets

CAPROCK

Environmental Engineering & Marine Geology

SITE LOCATION MAP

191 LIGHTHOUSE AVENUE
MONTEREY, CALIFORNIA
Ref No 4358